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***Affordable
instrumentation
to suit
your needs!***

velleman[®]
INSTRUMENTS
A DIVISION OF VELLEMAN COMPONENTS

PCS500

DIGITAL STORAGE SCOPES FOR PC

MEASUREMENTS UP TO 50 MHz!

up to 1GHz sampling rate

OPTICALLY ISOLATED from computer

PCS100



Check www.velleman.be for demos & updates

MINIMUM SYSTEM REQUIREMENTS :

- IBM-compatible PC
- Windows 95, 98, ME (Win2000 / XP or NT possible)
- SVGA display card (min. 800x600 for Windows)
- mouse
- free printer port LTP1, LTP2 or LTP3
- CD-ROM player

The PCS500 and the PCS100 are digital storage oscilloscopes that uses a computer and its monitor to display waveforms. All standard oscilloscope functions are available in the supplied Windows programme. It works just like a normal oscilloscope with the difference that all operations can be performed with the mouse. Use the computer's parallel port for connection. The scope is completely optically isolated from the computer port. Any waveform displayed on the screen can be stored for later use in documents or for the comparison of waveforms.

PCS500 :

Two separately digitised 50MHz channels with a sample rate up to 1GHz each.

PCS100 :

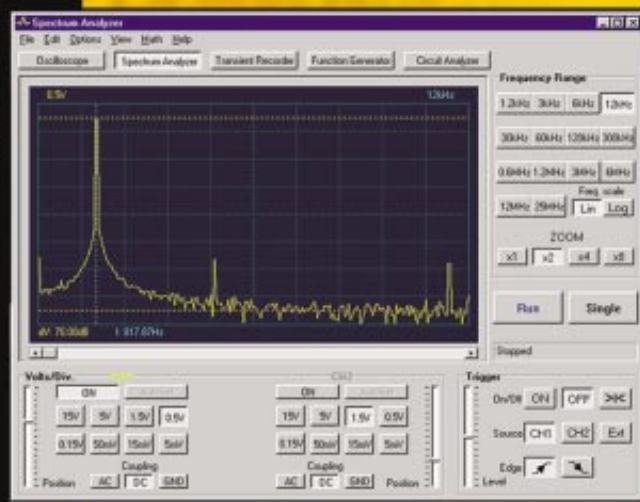
One channel (12MHz) with a sample rate up to 32MHz.

- ✓ Auto Setup function
- ✓ Input impedance : 1Mohm // 30pF
- ✓ Record and display of screens & data
- ✓ Max. input voltage : 100V (AC + DC)
- ✓ Input coupling : DC, AC and GND
- ✓ Supply voltage PCS500 : 9Vdc/1000mA
- ✓ Supply voltage PCS100 : 9Vdc/500mA
- ✓ Dimensions : 230 x 165 x 45mm
- ✓ Weight PCS500 : 490g
- ✓ Weight PCS100 : 400g
- ✓ Optional : bag (GIB)

PCS500A / PCS100A : adapter incl.

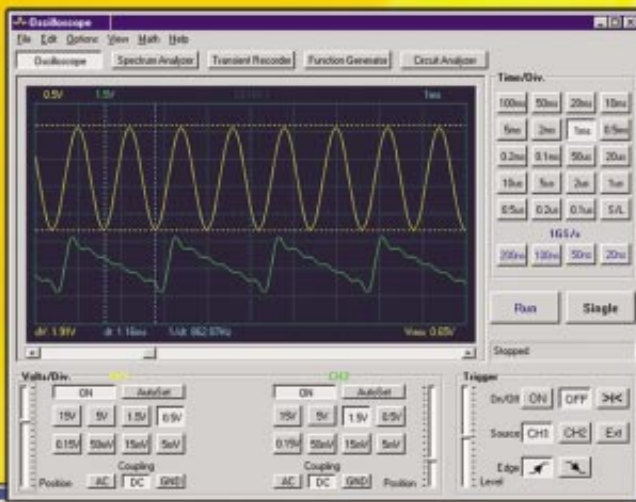
PCS500 / PCS100 : adapter not incl.

SPECTRUM ANALYSER



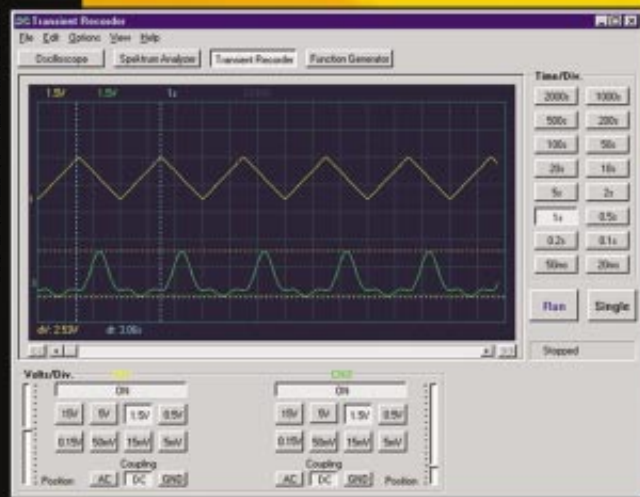
- frequency range PCS500 : till 25MHz / frequency range PCS100 : till 16MHz
- linear or logarithmic frequency scale
- operating principle : FFT (Fast Fourier Transform)
- FFT resolution : 2048 points
- zoom function
- markers for amplitude and frequency

OSCILLOSCOPE



- timebase PCS500 : 20ns to 100ms per division
- timebase PCS100 : 100ns to 100ms per division
- trigger source PCS500 : CH1, CH2, EXT or free run
- trigger edge : rising or falling
- trigger level : adjustable in steps of 1/2 division
- step interpolation : linear or smoothed
- markers for : voltage, frequency and time
- input sensitivity PCS500 : 5mV to 15V/ division
- input sensitivity PCS100 : 10mV to 3V/ division
- pre-trigger function (PCS500 only)
- true RMS read-out (only AC component)
- recording length : 4096 samples / channel
- sampling frequency PCS500 : real-time 50MHz
- sampling frequency PCS100 : real-time 32MHz
- sampling frequency PCS500 repetitive : 1 GHz (Equivalent Sampling Rate)

TRANSIENT RECORDER



- time scale : 20ms/div to 2000s/div
- max. recording time : 9.4hours/screen
- automatic data storage
- automatic recording for more than 1 year !
- max. number of samples : 100/s
- min. number of samples : 1 sample / 20s
- markers for time and amplitude
- zoom function
- recording and display of screens
- data format : ASCII



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HPS10

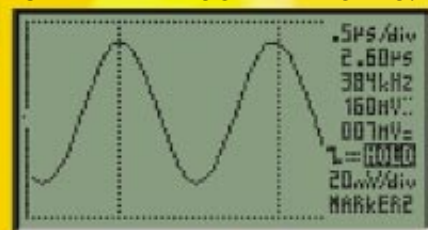
PERSONAL SCOPE

**up to 10MHz
sampling rate**

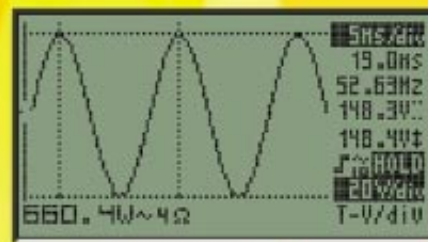
**up to 2MHz
analog
bandwidth**

The Velleman PersonalScope is not a graphical multimeter but a complete portable oscilloscope at the size and the cost of a good multimeter. Its high sensitivity - down to 0,1mV - and extended scope functions make this unit ideal for hobby, service, automotive and development purposes. Because of its extreme value for money, the PersonalScope is well suited for educational use in schools and colleges. Suitable for measurements on audio equipment, mains voltage applications, digital signals, all kind of sensors, signal analysis in automotive applications, car stereo, etc... Its full auto setup function, makes measuring waveforms very easy.

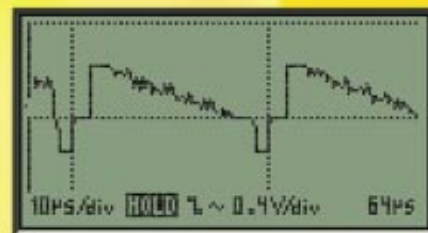
5 DIFFERENT SCREEN MODES:



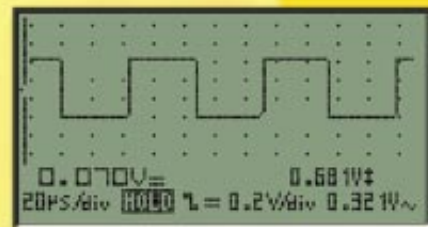
normal screen



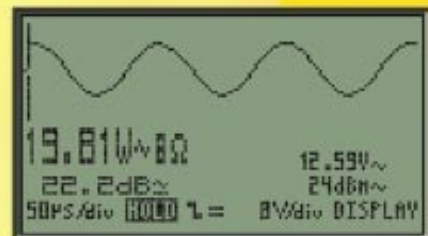
normal screen with large dvm



wide screen



wide screen with dvm



wide screen with large dvm

- ✓ 0,1mV sensitivity
- ✓ 5mV to 20V/div in 12 steps
- ✓ 200ns to 1hour/div time base in 32 steps
- ✓ Full auto set up
- ✓ Trigger mode : run, normal, once, roll, slope+/-
- ✓ X and Y position signal shift
- ✓ DVM readout with x10 option
- ✓ Audio power calculation (rms and peak)
- ✓ dBm, dBV, DC, rms ...measurements
- ✓ Signal markers for Volt and Time
- ✓ Frequency readout (through markers)
- ✓ Recorder function (roll mode)
- ✓ Signal storage (2 memories)
- ✓ LCD 128x64 pixels
- ✓ High contrast LCD
- ✓ Up to 20h on alkaline batteries
- ✓ Supply : 5 x AA Alkaline, Nid or NiMH batteries (not incl.)
- ✓ Includes battery charging circuit

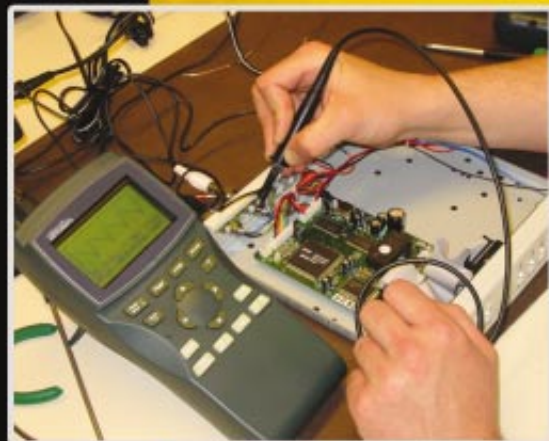
CONTAINS

- ✓ HPS10
- ✓ user manual
- ✓ insulated safety probe



OPTION

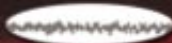
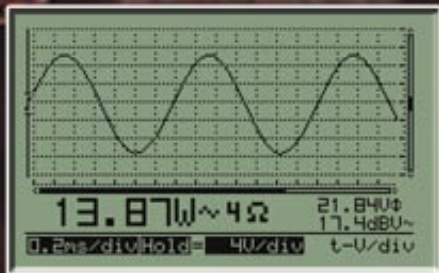
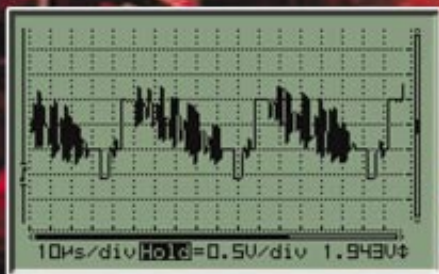
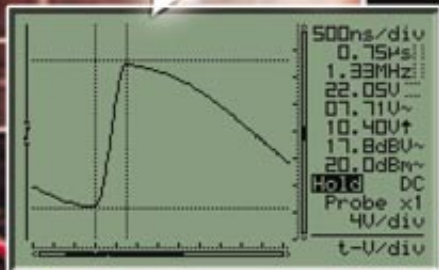
- ✓ mains adaptor [PS905] [PS905USA] for USA
- ✓ soft carry case [GIB]
- ✓ practical holster [BAGHPS]
- ✓ hardcase [CASEHPS]



HPS40

PERSONAL SCOPE

up to 40MHz
sampling rate



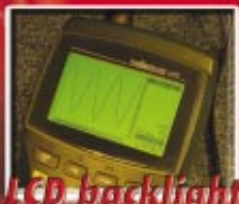
See the residual noise on 5 to 10 times higher priced competition



HPS40 impressive low noise, even on highest sensitivity

Screens and data can be transferred to a computer, through an optical isolated RS232 port. Even instant screen shots can be taken, while measuring! Two memories, signal markers, X+Y position shift and adjustable trigger level, make this scope complete. A roll/recorder function is also provided to make long time recordings, like power monitoring or battery charge/discharge curves.

Our goal with the HPS40 was to develop a user-friendly, feature-packed and genuinely "hand-held" oscilloscope. A number of characteristics were on our wish list: low noise, high sensitivity, modest weight, a backlit LCD and a choice between regular batteries or rechargeable ones. Furthermore, the scope also offers a selection of 5 different screen layouts. Both novices and professional users will admire the fast and fully automatic setup function, allowing them to perform measurements without physically touching the unit! Floating measurements are completely safe thanks to the battery-powered operation and the (included) fully insulated measuring probe. These features make the HPS40 indispensable to the professional user, service centres and even to the hobbyist.



LCD backlight

- 0,1 mV sensitivity
- 5mV to 20V/div in 12 steps
- 50ns to 1hour/div time base in 34 steps
- Full auto set up
- Adjustable trigger level
- X and Y position signal shift
- +27 DVM readout
- Audio power calculation (rms and peak) in 2, 4, 8, 16 & 32 ohm
- dBm, dBV, DC, rms ...measurements
- Signal markers for Volt and Time
- Frequency readout (through markers)
- Recorder function (roll mode)
- Signal storage (2 memories)
- High resolution LCD 192x112 pixels
- Data or bitmap download to PC

optically isolated RS232 output for PC

up to 12MHz
analog
bandwidth



EASY
SET UP
MENUS
note the
direct
power
calculation
for audio
loads

CONTAINS

- ✓ HPS40 unit
- ✓ Users manual
- ✓ Flexible carry protection holster
- ✓ Insulated, safety probe
- ✓ RS232 connection lead (to DB9)
- ✓ Handy hard protection carry case

OPTION

- ✓ mains adaptor PS905
- ✓ PS905USA for USA

MODE	Aut.	OFF	On	DPL	SEND
Auto	1	1	1	1	1
Band	1	1	1	1	1
Y-cal	Never	On	1	1	1
About					

Readout=1			
U ₁	U ₂	U ₃	U ₄
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U ₅₅₃	U ₅₅₄	U ₅₅₅	U ₅₅₆
U ₅₅₇	U ₅₅₈	U ₅₅₉	U ₅₆₀
U ₅₆₁	U ₅₆₂	U ₅₆₃	U ₅₆₄
U ₅₆₅	U ₅₆₆	U ₅₆₇	U ₅₆₈
U ₅₆₉	U ₅₇₀	U ₅₇₁	U ₅₇₂
U ₅₇₃	U ₅₇₄	U ₅₇₅	U ₅₇₆
U ₅₇₇	U ₅₇₈	U ₅₇₉	U ₅₈₀
U ₅₈₁	U ₅₈₂	U ₅₈₃	U ₅₈₄
U ₅₈₅	U ₅₈₆	U ₅₈₇	U ₅₈₈
U ₅₈₉	U ₅₉₀	U ₅₉₁	U ₅₉₂
U ₅₉₃	U ₅₉₄	U ₅₉₅	U ₅₉₆
U ₅₉₇	U ₅₉₈	U ₅₉₉	U ₆₀₀
U ₆₀₁	U ₆₀₂	U ₆₀₃	U ₆₀₄
U ₆₀₅	U ₆₀₆	U ₆₀₇	U ₆₀₈
U ₆₀₉	U ₆₁₀	U ₆₁₁	U ₆₁₂
U ₆₁₃	U ₆₁₄	U ₆₁₅	U ₆₁₆
U ₆₁₇	U ₆₁₈	U ₆₁₉	U ₆₂₀
U ₆₂₁	U ₆₂₂	U ₆₂₃	U ₆₂₄
U ₆₂₅	U ₆₂₆	U ₆₂₇	U ₆₂₈
U ₆₂₉	U ₆₃₀	U ₆₃₁	U ₆₃₂
U ₆₃₃	U ₆₃₄	U ₆₃₅	U ₆₃₆
U ₆₃₇	U ₆₃₈	U ₆₃₉	U ₆₄₀
U ₆₄₁	U ₆₄₂	U ₆₄₃	U ₆₄₄
U ₆₄₅	U ₆₄₆	U ₆₄₇	U ₆₄₈
U ₆₄₉	U ₆₅₀	U ₆₅₁	U ₆₅₂
U ₆₅₃	U ₆₅₄	U ₆₅₅	U ₆₅₆
U ₆₅₇	U ₆₅₈	U ₆₅₉	U ₆₆₀
U ₆₆₁	U ₆₆₂	U ₆₆₃	U ₆₆₄
U ₆₆₅	U ₆₆₆	U ₆₆₇	U ₆₆₈
U ₆₆₉	U ₆₇₀	U ₆₇₁	U ₆₇₂
U ₆₇₃	U ₆₇₄	U ₆₇₅	U ₆₇₆
U ₆₇₇	U ₆₇₈	U ₆₇₉	U ₆₈₀
U ₆₈₁	U ₆₈₂	U ₆₈₃	U ₆₈₄
U ₆₈₅	U ₆₈₆	U ₆₈₇	U ₆₈₈
U ₆₈₉	U ₆₉₀	U ₆₉₁	U ₆₉₂
U ₆₉₃	U ₆₉₄	U ₆₉₅	U ₆₉₆
U ₆₉₇	U ₆₉₈	U ₆₉₉	U ₇₀₀
U ₇₀₁	U ₇₀₂	U ₇₀₃	U ₇₀₄
U ₇₀₅	U ₇₀₆	U ₇₀₇	U ₇₀₈
U ₇₀₉	U ₇₁₀	U ₇₁₁	U ₇₁₂
U ₇₁₃	U ₇₁₄	U ₇₁₅	U ₇₁₆
U ₇₁₇	U ₇₁₈	U ₇₁₉	U ₇₂₀
U ₇₂₁	U ₇₂₂	U ₇₂₃	U ₇₂₄
U ₇₂₅	U ₇₂₆	U ₇₂₇	U ₇₂₈
U ₇₂₉	U ₇₃₀	U ₇₃₁	U ₇₃₂
U ₇₃₃	U ₇₃₄	U ₇₃₅	U ₇₃₆
U ₇₃₇	U ₇₃₈	U ₇₃₉	U ₇₄₀
U ₇₄₁	U ₇₄₂	U ₇₄₃	U ₇₄₄
U ₇₄₅	U ₇₄₆	U ₇₄₇	U ₇₄₈
U ₇₄₉	U ₇₅₀	U ₇₅₁	U ₇₅₂
U ₇₅₃	U ₇₅₄	U ₇₅₅	U ₇₅₆
U ₇₅₇	U ₇₅₈	U ₇₅₉	U ₇₆₀
U ₇₆₁	U ₇₆₂	U ₇₆₃	U ₇₆₄
U ₇₆₅	U ₇₆₆	U ₇₆₇	U ₇₆₈
U ₇₆₉	U ₇₇₀	U ₇₇₁	U ₇₇₂
U ₇₇₃	U ₇₇₄	U ₇₇₅	U ₇₇₆
U ₇₇₇	U ₇₇₈	U ₇₇₉	U ₇₈₀
U ₇₈₁	U ₇₈₂	U ₇₈₃	U ₇₈₄
U ₇₈₅	U ₇₈₆	U ₇₈₇	U ₇₈₈
U ₇₈₉	U ₇₉₀	U ₇₉₁	U ₇₉₂
U ₇₉₃	U ₇₉₄	U ₇₉₅	U ₇₉₆
U ₇₉₇	U ₇₉₈	U ₇₉₉	U ₈₀₀
U ₈₀₁	U ₈₀₂	U ₈₀₃	U ₈₀₄
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U ₈₀₉	U ₈₁₀	U ₈₁₁	U ₈₁₂
U ₈₁₃	U ₈₁₄	U ₈₁₅	U ₈₁₆
U ₈₁₇	U ₈₁₈	U ₈₁₉	U ₈₂₀
U ₈₂₁	U ₈₂₂	U ₈₂₃	U ₈₂₄
U ₈₂₅	U ₈₂₆	U ₈₂₇	U ₈₂₈
U ₈₂₉	U ₈₃₀	U ₈₃₁	U ₈

Select your
most suitable
VELLEMAN scope

velleman®
INSTRUMENTS

HANDHELD SCOPES



HPS10



HPS40

PC SCOPES



PCS100*

PCS500*

	1	1	1	2
Number of channels	1	1	1	2
Maximum sample rate	10MS/s	40MS/s	32MS/s	2 x 1GS/s
Maximum bandwidth	up to 2MHz	up to 12MHz	12MHz all ranges	50MHz all ranges
Real time sample rate (single shot event)	1MS/s	5MS/s	32MS/s	2 x 50MS/s
Number of screen layout modes	5	5	1	1
LCD screen / PC signal screen size (pixels)	128x64	192x112	apr. 520x295	apr. 520x295
LCD backlight		☑	/	/
Memory length (bytes)	256	256	4096	2 x 4096
Sensitivity Vpp	0.1mV	0.1mV	0.3mV	0.1mV
Volt / div range and number of steps	5mV to 20V / 12steps	5mV to 20V / 12steps	10mV to 3V / 6 steps	5mV to 15V / 8 steps
Maximum visible voltage with X 10 probe	600VDC incl ACp	600VDC incl ACp	120VDC incl ACp	600VDC incl ACp
Fastest time / div	0.2µs	0.05µs	0.1µs	0.02µs
Slowest time / div in recorder or roll mode	3600s	3600s	2000s	2000s
Data or screen capture to computer		☑ RS232	☑	☑
PC software	/	Download only	PC-Lab2000 CD	PC-Lab2000 CD
Operation through computer (LPT port)			Optical isolated	Optical isolated
Screen memories	2	2	PC harddisk	PC harddisk
Stand alone operation (portable)	☑	☑		
Standard oscilloscope probe compatible	☑	☑	☑	☑
Recorder mode	☑	☑	☑	☑
Spectrum analyser mode			☑	☑
Bode plot option if used with PCG10 generator	/	/	☑	☑
X position and Y position shift	☑	☑	☑	☑
X 10 probe calculation option	☑	☑		
Adjustable trigger level		☑	☑	☑
External trigger input				☑
Pre trigger function				☑
Zoom function for time/div			☑	☑
Screen memory compare / recall	☑	☑	☑	☑
DVM with X10 probe option	☑	☑		
Auto set-up FULL	☑	☑		
Auto set-up SEMI			☑	☑
Dynamic screen (auto fit) for markers	☑	☑		
Signal markers (dt / dV / 1/dt)	☑	☑	☑	☑
Audio power calculation	☑	☑		
dBm measurement	☑	☑	☑	☑
dBV measurement	☑	☑		
AC only true rms measurement	☑	☑	☑	☑
AC + DC true rms measurement	☑	☑		
DC measurement with zero reference set-up	☑	☑		
Mathematical functions CH1 + Ch2, Invert,,,				☑
Auto power off option	☑	☑	/	/
Demo mode	☑	☑	☑ (software)	☑ (software)
Battery / rechargeable battery operation	☑	☑		
Low battery indication	☑	☑	/	/
Battery charge circuit	☑	☑	/	/
Holster included (BAGHPS)	☐	☑	/	/
Case (GIB)	☐	☐	☐	☐
Oscilloscope probe included (PROBE60S)	☑	☑	☐	☐
Test lead included	/		☑	☑
Blow moulded carrying case (CASEHPS)	☐	☑	/	/

☐ = Option ☑ = Yes / = not applicable

* Due to regular software updates, specifications or features can improve, check our website
www.velleman.be

PCG10

0.1 MHz FUNCTION GENERATOR FOR PC

Frequency range from 0.01Hz to 1 MHz.
Crystal-based stability. Low sine wave distortion. TTL-level synchronisation output. Stores up to 32K of waveform points. Standard waveforms: sine, square and triangle. Library of predefined waveforms included: noise, sweep,... Includes Windows™ '95/'98/NT/2000 integrated software for the function generator and Velleman PC oscilloscopes. Extended bode plot option for use with the Velleman PC scopes. The user can create his own waveforms with the integrated signal wave editor. The PCG10 can be chained with Velleman PC oscilloscopes to the same PC printer port (LPT1, 2 or 3).

- ✓ Power supply : standard 12V DC adapter, 800mA (incl.)
- ✓ Direct digital wave synthesis (DDS), 32K wave table
- ✓ Remote control via RS232
- ✓ Frequency setting resolution : 0.01%
- ✓ Amplitude range : 100mVpp to 10Vpp @ 600ohm load
- ✓ Amplitude resolution : 0.4% of full scale
- ✓ Offset : from 0 to -5V or +5V max. (resolution 0.4% of full scale)
- ✓ Vertical resolution : 8 bits (0.4% of full scale)
- ✓ Maximum sample rate : 32MHz
- ✓ Typical sine wave distortion (THD) : < 0.08% (< 100KHz / 1V)
- ✓ Triangle wave linearity : 99% (0 to 100KHz)
- ✓ Output impedance : 50ohm
- ✓ Dimensions : 235 x 165 x 47mm

**optically isolated
from computer**

PCG10A : adapter incl.
PCG10 : adapter not incl.

Check
www.velleman.be
for demos
& updates

IN OPTION
✓ soft carry case [GIB]



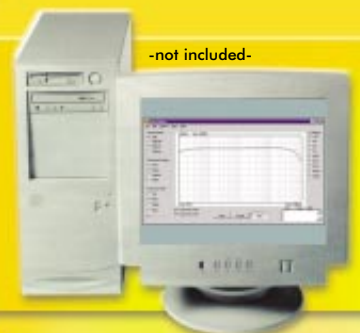
→ PCS500 digital storage scope (optional)



pass-through connection



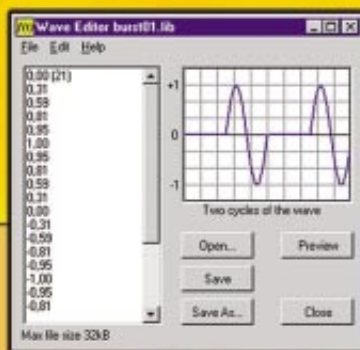
Velleman PC Scope
-not included-



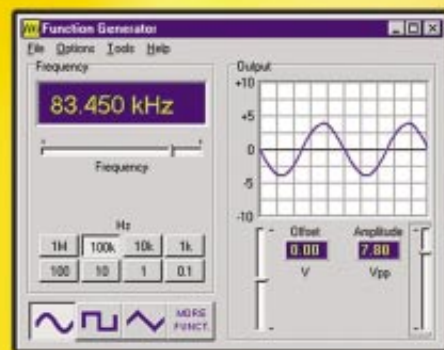
-not included-

MINIMUM SYSTEMS REQUIREMENTS

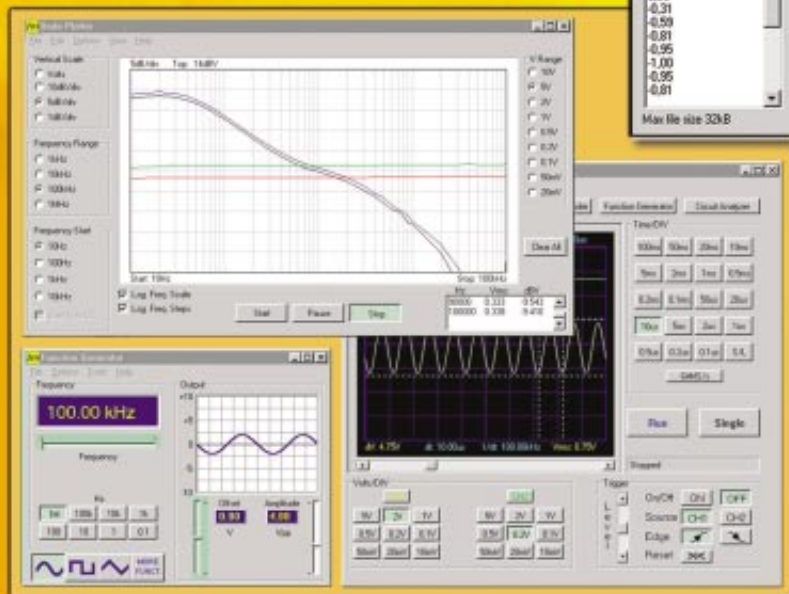
- IBM-compatible PC
- Windows 95, 98, ME (Win2000 / XP or NT possible)
- SVGA display card (min. 800x600 for Windows)
- mouse
- free printer port LTP1, LTP2 or LTP3
- CD-ROM player



WAVE EDITING
POSSIBILITY



FUNCTION GENERATOR SCREEN
WITH SIGNAL PREVIEW



EXTENDED BODE PLOT POSSIBILITY FOR USE WITH THE VELLEMAN PC SCOPES
(PCS100 OR PCS500)

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BELGIUM +32(0)9 384 36 11
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USA (817) 284-7785
SPAIN +32(0)9 384 36 11